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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP 3 1927

REPORT FOR WEEK ENDING SEPTEMBER 3, 1927.

HAVRE:

There has been very little rain during the last two weeks and temperatures have been about normal with the result that late grain crops have matured quite rapidly. Corn continues growth but it is doubtful whether or not there will be any mature grain. The total yield of corn, however, will be quite high. Most of the grain crops are harvested. Some of the late seeded grain hays, millet, and sorghum are yet to be cut.

Threshing has been in progress during the last week and one-half. Two commercail fields were threshed out. The rotations are threshed except for flax which is not yet harvested. The varieties and miscellaneous tests will be finished today. The following is a summary of the oat, barley, winter and spring wheat yields obtained on the rotation this year:-

Oats:		Winter Wheat:	
Average of all plats	55.2 bu.	Average of all plats	35.6 bu.
High plat (8a)	74.4 "	High plat (MCD)	46.9 "
Low " (MCAc)	31.9 "	Low " (MCBc)	19.0 "

Barley:		Spring Wheat:	
Average of all plats	39.2 bu.	Average of all plats	34.8 bu.
High (6b)	61.1 "	High (72C)	45.3 "
Low (MCBa)	17.7 "	Low (MCA)	26.1 "

Some of the yields from later seeding on the date of seeding test for winter wheat were heavier than any of the rotations. One plat seeded on October 1 yielded 54 bushels. One field of barley on the subirrigated land gave a yield of 70 bushels.

Threshing is quite general over the county, more especially where it is being harvested with a combine. The yields of winter and spring wheat seem to be about the same, very little of it making less than 25 bushels with spring wheat on fallow yielding above 40 bushels. Elevator men are now estimating that the yield for Hill County will be close to 6;000,000 bushels. This may possibly be a little high, but yields are all running from 5 to 10 bushels more than was anticipated. There is about 10 per cent of the grain in the county that is late, all of which is infected with rust, some of it stem rust. The yields on a part of this will undoubtedly be decreased due to this damage. If the weather continues dry, most of this will be safe from frost damage in a very few days.

Mr. Robert Shotwell, of the Entomological Laboratory at Billings, visited the station on August 27. Mr. Shotwell is looking into the grasshopper situation which, in some sections of Montana, is getting a little serious.

JUDITH BASIN:

Light showers during the forepart of the week delayed the ripening of late spring sown crops. Warmer weather during the last two days was favorable to all crops. A good deal of concern is shown by farmers who seeded late, as damage from frost seems apparent even though the average date of fall frost is September 19. A large proportion of the winter wheat in the Basin has been combined. Cutting of the earlier spring wheat has just started.

All spring grain on the rotations have been harvested. Most of the cutting in the Cereal experiment is completed. Pure seed fields of wheat, oats, barley and flax have been cut and only a few miscellaneous strips of increase remain uncut. Practically all of the forage crops have been harvested. Increase fields of crested wheat grass seed were cut.

Cows on the pasture experiments were transferred from grasses to sweet clover as the latter plots are producing a desirable green growth. Heifers were placed on the grass experiments.

Early seeding of winter wheat with the furrow drill has been encouraged among Basin farmers and a large percentage of this crop is seeded. Many fields have emerged with good stands and give promise of being in splendid condition to withstand the severe winter climate. Better summer tillage methods are beginning to interest farmers and increased returns are expected from these improvements. A much larger percentage of winter wheat has been seeded in Central Montana this season than in recent years.

Maximum temperature 82, minimum 41; precipitation, .39 inch.

SHERIDAN:

With the exception of one day following a light shower, weather conditions during the week were quite favorable for threshing. All of the Kharkof winter wheat and all of the Sixty-Day oats on the station have been threshed. Oats in the rotations averaged the highest yields yet recorded here, about 64 bushels to the acre, in spite of what appeared to be a poor stand on the ground.

The yields of oats ranged from 46.6 bushels to the acre on the listed plot in the MC series to 81.9 bushels following sorgo in Rotation 47, where the ground is manured for the sorgo. Corn ground genorally outyielded fallow, and following small grain including oats, except in the MC series, the yield was above the average for all rotations. The grain in itself, however, was light, and the entire crop was damaged by the rains during August while standing in the shock. For the first time in the record of the station the June 1 seeding yielded the highest of the different dates of seeding.

Sheridan, continued:

The average yield of winter wheat in rotation with other crops and on the alternate fallow was 48.2 bushels to the acre, and where cropped continuously to winter wheat 29.1 bushels. The highest yield of winter wheat was on fallow in Rotation 118, and the lowest on the plot continuously stubbled in, Rotation 571, 57.2 and 16.5 bushels to the acre, respectively. A few shocks of the winter wheat were found to have been damaged by the wet weather, and there was considerable yellow berry throughout the entire crop.

Maximum temperature 84, minimum 42; precipitation, .21 inch.

MANDAN:

Agronomy

The week was favorable for field work. Grain was slow in drying out, so that it was not in the best condition for threshing.

Corn is making fair advancement but still needs about 10 days of good weather, in order to mature enough for good seed.

Fallow plots were worked with the duckfoot cultivator. Flax was harvested in the plots where they were not too weedy. The very weedy plots were mowed and hauled away.

Millet varieties and the second crop of the alfalfa varieties were hauled in.

Threshing is starting today on the crested wheat grass, brome grass, and winter rye.

The precipitation for August was 3.16 inches, as compared with the 50-year average of 1.85 inches. The rainfall at the pasture was 4.26 inches. The rainfall for the year to date is now 3.59 inches above the 50-year average.

Maximum temperature 83, minimum 44; precipitation, Trace.

Cooperative Grazing Experiment

The rest of the hay from the mowing experiment was hauled in. The yields this year from the units cut each year and those cut once in two years are very much alike. The 1-year units averaged 628 pounds per acre, and the 2-year units 655. The slight difference is because of the very low yield in 1926.

Mandan, continued:

The cattle made good gains during August. The following gains per head were made during August and for the season to date:-

Pasture	August gains	105 days
100-acre	59.0	289.5
70-acre	54.0	294.5
50-acre	64.0	310.5
30-acre	29.5	248.5
Rotation (70-acre)	61.1	273.2
Brome grass (25-acre)	64.2	335.0

Horticulture

Opata plums and Duchess apples in the various experimental projects were harvested the early part of the week. The orchards and other experimental plots have been cultivated for the last time this season.

Removal of branches and parts of apples and pears affected by blight has been in progress during the week, and will probably continue for some time.

Selection work in the tomato project was started during the week.

Early blanched celery is now ready for use and of excellent quality. The combination method of earth hilling with boards at the top proved distinctly desirable this season. The stalks are taller, more free from rust, and better blanched than when blanched with soil alone. It is also a decided saving in labor.

BELLE FOURCHE:

The weather has continued comparatively warm and favorable for the maturing of crops. A few plots of spring wheat have been cut and the remainder of the small grain on the rotations will probably be ready to harvest next week. Corn will require another month of warm weather to mature.

President and Mrs. Coolidge and party paid a brief visit to the station September 1. The presidential party arrived by special train about 1:00 p.m., and were taken by automobiles for a tour of the experiment station. Returning to Newell, the President was presented with a small gold irrigation shovel, and left about 2:00 p.m. by special train for Nisland, where he paid a brief visit to the county fair.

Bellefourche, continued:

Mr. W. H. Hosterman, of the Division of Hay, Feed and Seed, Bureau of Agricultural Economics, was a visitor at the station, September 2.
Maximum temperature 86, minimum 48; precipitation, .13 inch.

AKRON:

Ewes and lambs were weighed early in the week. The lots of lambs weighed as follows: Lot on sweet clover, 85 pounds; lot on mixed pasture grasses, 80.5 pounds; lot on weeds on Rotation 28, 79.1 pounds; lot on rye, native grass and weeds on Rotation 51, 68.3 pounds; and lot on native sod. 71.5 pounds. Two lambs were lost through bloat on the sweet clover pasture during the month of August.

The first rate and date seeding of winter wheat, seeded August 18, has emerged and shows excellent stands on both fallow and corn land. The second rate and date seeding was made yesterday, September 2.

The sheep rotation straw stacks were fenced in and the ewes and lambs given the run of the wheat stubble fields.

The two sheep rotation winter wheat fields were seeded on the 29th. The sheep rotation rye field and the rotation rye plots for green manure were seeded during the week. Other work consisted of cultivation and hoeing to control weed growth.

Corn is now in good roasting ear stage here on the station. The bulk of the grain and forage sorghums are in head. About 500 heads of sorgo have been bagged for seed and head selection purposes.

The remainder of the crabs were picked today. The one tree of Dart Crab yielded 2½ bushels of fruit of good quality. The one tree of Lyman Prolific Crab yielded 3 pecks. The one tree of Minnesota Crab yielded 2½ pecks. The two trees of Virginia Crab averaged about 2 pecks per tree.
Maximum temperature 86, minimum 49; precipitation, .23 inch.

NORTH PLATTE:

The week has been dry and warm, supplying excellent and much needed conditions for maturing corn. Owing to the cool season, corn is fully two weeks late. With early frost a possibility, it has not seemed likely that corn would fully mature. The conditions of the present week are, therefore, very timely.

North Platte, continued:

Potatoes on the D. L. A. plots were harvested September 2. The average field run yield was 150 bushels per acre. The crop in this section is reported as good. The market is poor. Local merchants are offering only 75¢ per bushel.

Late tillage operations are in progress preparing land for winter wheat.

COLBY:

Weather conditions remained relatively cool and dry during the week. Several rains of an inch or more fell to within 8 to 10 miles of the station during the week, but the total amount on the station was .02 inch. The surface soil is very dry. The listed corn, in most instances, still has a good green color even to include the bottom leaves, while the surface planted corn, except on fallow, has dried up without the production of grain except on marginal areas. These surface planted corn plots will be harvested during the coming week.

Milo and kafir is just shedding pollen sacks. It will take favorable weather for them to mature. Several heads in the feterita are well along towards having the seed formed. Feed crops of sorghums on the station are doing nicely. There are spots in the commercial fields where dry soil is retarding the growth.

Work during the week has consisted of cutting weeds in areas and fields not previously gone over, in repairing one barn, unloading a carload of hay, and in working the orchard.

The maximum temperature during the week was 93°, minimum, 59°. Evaporation for the week, 1.342 inches; precipitation, .02 inch. Average hourly wind velocity for the 8 ft. anemometer 6.8 m.p.h.; for 2 ft. anemometer, 4.7 m.p.h.

GARDEN CITY:

With temperatures somewhat higher than those recorded during the previous two weeks, the past week might be considered much better growing weather. Sorghums growing on the poorer methods of preparation are beginning to roll and show the need of moisture, while those on the better methods and on fallow are developing nicely. Corn is far enough advanced that dry weather will probably not influence the yield much. The corn on the project is the best this year that it has been in several years. Most stalks are bearing two fairly well filled ears.

Garden City, continued:

Cowpeas are beginning to ripen but it is hoped can be left standing until after field day next week. The first variety to ripen in the variety test was Mung Bean, which was harvested early in the week.

Field work has consisted of cultivating roadways and fallows and preparing label stakes for the plots.
Maximum temperature 96, minimum 57; precipitation, 0.

DALHART:

Climatic conditions have been a little more favorable during the past week than the two weeks previous. Three rains were recorded netting .46, .16 and .04 inch, respectively. While this amount will help a great deal, it will not be sufficient to carry the crops to maturity. Since these rains the weather has not been so hot and the crops have not suffered as badly as before.

There are a few crops that are not headed yet. These are mostly on the rotations in the north field and on listed plots that had to be replanted. The soil condition prevailing in parts of the north field is showing up very plainly this season. About the poorest showing made is on the methods of fallow kafir. Rotations 82, 83, 162 and 165 are also making a very poor showing. The remainder of the rotations have crops that are making an excellent showing. There is not as much firing in the north field crops as in those in the variety grain and forage sorghums and increase fields.

Harvesting during the week consisted of the first two dates of the Black Spanish broom corn and Sudan grass on Rotation 83. The broom corn reached a height of 8 feet and had to be tabled before cutting the brush. The brush was hauled in, seeded and put on the racks to cure. The brush has a very good color, medium length but rather coarse fiber.

Other work during the week consisted of building a new cattle guard at the station entrance in place of the old one. The old one had been run into so many times that it was in pretty bad shape. It had a large hole in the center and some drivers managed to hit the opening occasionally. The new one is build out of concrete and 2½ inch pipe set on 6-inch centers. The concrete is reinforced throughout. There is a center pier for additional support of the pipe.

Dalhart, continued:

The A plots for winter rye and wheat were plowed this week to a depth of 3 inches and put in shape for planting. The planting will be made in the near future. Some hoeing was continued in the increase fields. Bird shooting has been on the program at intervals during the week. The birds are doing a great deal of damage but are so wise that it is a hard matter to catch them doing it. A lot of them have been killed during the past two weeks and numerous sparrows caught in the trap a little earlier and killed.

Maximum temperature 90, minimum 59; precipitation, .66 inch.

TUCUMCARI:

Growth of all crops the past week was satisfactory, a shower arriving just when firing was becoming noticeable on broadcast sorgo and on some of the rank growing grain sorghum plots. Milo is heavily suckered and heads are of good size. Sunrise kafir is headed, in most cases, and if late suckers do not mature, at least a heavy forage weight is certain, for plants frequently are six to seven feet tall.

The first cutting of Sudan grass on plots has been made and yields were good. Sudan and cowpeas in alternate rows on the 1928 variety test sorghum land will soon require harvesting, while cowpeas in rotation plots are also approaching maximum growth.

During the past week cowpeas and Sudan as green manure on Rotations No. 296 and No. 299 were plowed under. The Sudan was 6½ feet high, while the cowpeas were so rank one could not tell by observation whether they were planted in rows or broadcast. Fallow land was worked, odd hoeing was done, heads of twenty or more varieties of sorghums were bagged, and MC wheat and rye plots were prepared for seeding.

The precipitation during August amounted to 4.99 inches, making a total for the year 11.38 inches, as compared with a 22-year average of 13.08 inches.

Maximum temperature 92, minimum 57; precipitation, .63 inch
Evaporation, 1.890 inches. Average hourly wind velocity, 3.1 miles.

BIG SPRING:

Weather conditions have been very hot during the past month, there being 17 days when the maximum thermometer registered above 100. The long dry spell was broken on the night of September 2 when a heavy rain consisting of 2.23 inches fell. Although no hail fell at the station during the storm, several reports of rather severe hail damage have come from various points. Although this rain will be of great value to late feed crops

Big Spring, continued:

and young cotton, it came too late to help the grain sorghum plots. It will, however, be of immense value to the ranchers as the grass problem had become very serious with them.

Stand counts were made on kafir in the rotations and on all of the grain and forage sorghums in the varieties. All of the kafir in the rotations and also some several grain sorghum varieties were harvested during the week. Other work consisted of shocking cowpeas and duckfooting fallow plots.

Mr. Doyle and Mr. Taylor, of the Cotton Office, Washington, D. C., and Mr. Macnamera and Mr. Porter, of the Greenville Station, were station visitors during the week.

Maximum temperature 103, minimum 67; precipitation, 2.23 inches.

LAWTON:

Cotton wilted daily during the first four days of the week when the temperatures were high. A good rain of .68 inch fell September 1 and cooler weather with threatening clouds ensued. In some adjacent localities heavy rains were received during the week.

Cotton has opened rapidly during the past week and a few bales of early planted cotton have been ginned and marketed at 21 to 22 cents per pound. Picking of some of the early maturing varieties, planted April 15 and May 1 on the station, will begin at once.

Harvesting of the last of the sorghum crops was completed during the week. In some instances pretty good yields of kafir were matured in the rotation plots but chinch bug damage was very severe on many plots and this was especially true with most of the feterita plots.

A trip through the northeastern part of the county, where sandy soil prevails, revealed lots of good corn, abundant pasturage, and heavy production of grain and forage sorghums. Cotton, although a little late in some instances, was in excellent condition.

About seven and one-half tons of cowpea hay was baled during the week and stored for winter usage.

Lawton, continued:

The heavy invasion of army worms have not done much damage to cotton except in local instances. Practically no damage has occurred on the station. An application of lead arsenate spray and poisoned bran in some places proved quite effective. Boll worms however, are responsible for considerable loss of young bolls.

Maximum temperature 101, minimum 66; precipitation, .68 inch.

WOODWARD:

Heavy fogs and light showers have characterized the forenoons of all but the last two days of the week. But in spite of this, thickly planted feed is beginning to show need of moisture. Rowed crops have not advanced rapidly toward maturity. Some of the later plantings are catching up with earlier ones in development. It is likely that harvest will come on all together.

Work of the week has consisted of hoeing weeds in the forenoons and putting up hay in the afternoons.

Maximum temperature 92, minimum 61; precipitation, .07 inch.

Evaporation, 1.204 inches. Average hourly wind velocity, 4.0 miles.

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SEP 10 1927

REPORT FOR WEEK ENDING SEPTEMBER 10, 1927.

HAVRE:

Cool weather during the past week slightly retarded the development of late seeded grains. A maximum of 94 on the 7th greatly aided corn, otherwise the weather has been cool for ripening this crop.

There were two traces of precipitation with .01 of an inch on one day. Aside from this there has been no moisture for several weeks.

Commercial fields were threshed during the week, making very good yields. Spring wheat made 35 bushels and Prolific spring rye, 38 bushels to the acre. Some of the early dates of corn, sorgo, and Sudan grass are being harvested. The yields of corn and Sudan grass are the heaviest since the station was started. This is contrary to our belief that light yields heretofore have been due to cool weather, they apparently lacking moisture.

Third cutting alfalfa under irrigation is ready to cut but will be short.

JUDITH BASIN:

Light showers on five days and cool weather with very little sunshine retarded the maturity of small grains. Harvesting and threshing have practically been at a standstill in the Basin during the week. A good deal of concern is evidenced in regard to spring wheat. A large percentage of the crop will not be out of danger from frost until the 25th. Loss from early storms on the barley crop is also feared.

Most of the winter wheat is threshed with average yields of 30 to 35 bushels being obtained. Good yields have been returned on all forage crops. Range and pasture land is holding up in splendid condition.

The continuous cropping winter wheat plots were prepared early in the week. Other rotations were also made ready for seeding. Seeding of winter wheat and rye on all rotations will be completed today. An increase field of Newturk wheat is being seeded using different recommended types of drills.

Three blocks of the Forage Crop project are being fall plowed. These experiments have been in test for a number of years and have been discontinued to allow space for new work.

Judith Basin, continued:

An exhibit showing results from shelterbelt, furrow drill, and variety tests was presented at the Central Montana Fair. A home-made smut machine was included in the demonstration. One man was busy explaining recommended practices resulting from station experiments. Much interest and favorable comment was shown in the work.

Station visitors included Messrs. C. C. Starring, and J. E. Norton of the Bozeman Station.

Maximum temperature 86, minimum 41; precipitation, .15 inch.

SHERIDAN:

The week has been quite favorable for threshing. The remainder of the oats, all of the Arnautka durum wheat, except a late seeding that was not yet ready to thresh, and all of the Trebi barley in plots, has been threshed.

Markton again yielded the highest of the varieties of oats, 95.0 bushels to the acre, as compared with 88.3 bushels for Silvermine which was next highest, and 63.8 bushels by Sixty-Day. All of the later oats were much better quality than the Sixty-Day also, Markton weighing about 36 pounds to the bushel, as compared with 31 pounds for the Sixty-Day. Other seedings of Markton yielded in about the same proportion to Sixty-Day as the variety test.

Yields of both spring wheat and barley in the rotations were the best yet recorded here. Yields of spring wheat ranged from 19.3 bushels to the acre on the listed plot, MCF, to 42.3 bushels on fallow in Rotation II-5, and the average of all plots in the rotation field was 36.0 bushels. Yields of barley ranged from 45.6 bushels to the acre on the spring plowed plot, MCA, to 77.9 bushels, stubbled in following flax in Rotation II-85, while the average yield of the rotations was 64.1 bushels to the acre.

Millet for seed was cut during the week. Corn is now sufficiently matured to select seed, and with a few more days without a frost should make a crop.

Threshing operations are well along throughout this section. Many of those using combines have finished. Yields in general are considerably above the average.

Maximum temperature 92, minimum 48; precipitation, .03 inch.

DICKINSON:

A rain of .80 inch on the night of the 7th stopped threshing and light showers have since kept the grain too wet for work. This storm was much heavier in the Badlands west and washed out a section of track of the Northern Pacific. On the night of the 8th an even more destructive cloudburst washed away more track west of Medora. It is now reported that through train service cannot be resumed until the 12th.

Corn has made a rapid growth during the warm weather of the past two weeks. The earliest ears of the Northwestern Dent grown on the rotations are about mature. If frost holds off for another two weeks the outlook is for very good yields.

Samples of wheat from the rotations were prepared for sending in for protein tests.

Sweet clover seed was harvested September 9. Flax on the rotations was cut on the same day. A few plots of flax remain to be harvested in the date of seeding test.

Painting of the seed house was completed on the 10th. This completes the work of the contractor.

Mr. J. E. Chapman, of the Department of Agronomy, was a visitor on the 10th.

Maximum temperature 90, minimum 53; precipitation, .85 inch.

MANDAN:

Agronomy

The past week was favorable for threshing. The rotation plots of wheat, oats and barley, were threshed during the week.

Wheat averaged about 24 bushels per acre in the main field and 25 in the south field. The highest yield was 31.7 and the lowest 15 bushels per acre. Oats ran from about 27 to 62 bushels per acre, and barley about 30 to 52 bushels.

Corn is maturing rapidly. The start of seed corn picking was made on the 9th. Unless frost comes soon, it should be possible to pick a good supply of seed corn on the station.

Maximum temperature 91, minimum 54; precipitation, 0.

Mandan, continued:

Cooperative Grazing Experiment

Grass still remains in good condition for grazing. The 30-acre steers are still holding their own, but will no doubt start to lose weight soon.

Horticulture

Assinniboine, Winnepeg, Sansota, Sapa, and Compass plums were harvested during the week. Fair to good crops were obtained. Sandcherry hybrids are yielding heavier than other classes of plums.

Crabapples are yielding well. Florence, Silvia, Robin, Dolgo, Alexis, and Transcendent crabs were picked during the week. Florence looked very good this year.

Selections have been made in the seedling apple and plum blocks. Some of the crab selections appear to be very good.

Fields have been cultivated and hoed for the last time this season.

Selection work in the tomato project has been in progress during the week. Several strains are being eliminated, and efforts concentrated on a few outstanding groups. About 120 selections have been made among the earliest strains. The later ones are ripening, but are not quite ready yet. The yield in general is very good, about 120 bushels of ripe fruit having been picked so far, with vines loaded with green fruit.

County Gentleman and Burpees' Delicious Sweet corn are now ready for use. The latter, a new variety tested for the first time at this station, appears very promising, being very large and of excellent quality.

The warm weather of the last 10 days has vastly improved the Canna and Geranium beds on the grounds. These are now at their best and very showy indeed.

BELLE FOURCHE:

Hot weather has prevailed during the greater part of the week. The last couple of days have been comparatively cool during the day time, but warm during the night. The hot weather was favorable to the maturing of wheat, and all but five plots of wheat have been harvested. Corn has not commenced to dent and it is doubtful if corn will mature sufficiently for seed purposes.

Bellefourche, continued:

Winter rye, winter wheat, barley, and oats were threshed. The maximum and minimum yields for each crop are listed below:

	Maximum Yield	Minimum Yield
Winter rye	13.8 bu. (Rot.412)	10.5 bu. (Rot.411)
Winter Wheat	20.5 " (CC-D)	2.2 " (CC-E)
Barley	30.2 " (Rot. 6)	3.1 " (CC-B)
Oats	58.1 " (Rot. 8)	19.1 " (Rot.3)

Professor H. C. Severin and Mr. George Gilbertson, entomologists from the South Dakota Experiment Station, were at the station a few days testing out different poison baits for crickets.

Maximum temperature 92, minimum 56; precipitation, .05 inch.

ARDMORE:

The week was the warmest of the season. The hot weather was effective in hastening the ripening of the corn. The flint and flour corns, and some of the early planted fields of Northwestern Dent are now ripe. The latest of the fields of corn are now more than half dented. Silage cutting will begin the first of next week.

Baling hay occupied the force most of the week. The hay grown on the farm this year will be enought to feed the stock for two years unless the amount of stock is increased. Over one-half of the alfalfa is now baled.

The flax in the rotations was threshed early in the week. It has not yet been cleaned to determine yields accurately. Indications are that yields will range from nearly total failures on some of the continuously cropped plots to about 15 bushels per acre on the best plots.

Maximum temperature 91, minimum 50; precipitation, .09 inch.

ARCHER:

The weather has been warm and dry, there being but .01 of an inch of precipitation recorded. However, at this moment a fair sized shower is in progress.

Monday was spent harvesting the ripe varieties of small cereals. Since then the work has consisted of putting the sunflower crop in the silo. From the loads weighed, it is estimated that the 17-acre field produced 104 tons. This is an average of about 6 tons per acre. The corn yield will be about one-half this amount per acre.

Maximum temperature 83, minimum 51; precipitation, .01 inch.

AKRON:

The past week has been especially warm, and consequently very favorable for aiding the maturity of the corn and sorgo crop. Prospects are good for a bumper crop of corn on the hard lands as well as on the sandy soils if frost holds off another two to three weeks. Two weeks of weather such as we have experienced the past week would put three-fourths the acreage of corn past danger.

Bean rust has made its appearance among the varieties here on the station and appears to be damaging the plants materially. Reports have reached the station about bean rust being present in Northeast Colorado, but it has not made its appearance here until recently.

The cereal variety fallow ground, the fallow and the small grain stubble for forage variety experiment, the fallow for alfalfa varieties, and the fallow plots of the M.F. No. 2 series were duck-foot cultivated during the week. It almost seems that the hog weed (Amaranthus) cannot be kept under control this year.

Patton Greening, Wealthy, Longfield, McIntosh apples and Malinda Crab were picked during the week. Birds had damaged the fruit of the Wealthy and McIntosh varieties badly. Certain of the Patton Greening trees and certain of the Wealthy trees as well as the Malinda Crab trees yielded well, producing two to two and one-half bushels of fruit per tree.

The September 2 Rate and Date seeding of winter wheat has emerged on fallow. The rotation rye plots, the sheep rotation rye field, and the sheep rotation winter wheat fields seeded last week have emerged.

The rotations winter wheat plots are being seeded today. In most cases there appears to be enough moisture present in the surface soil to insure emergence. Grasshoppers are present on the rotation plots and it is likely that poison bran will have to be scattered to prevent the 'hoppers' from damaging the emerging winter wheat.

Maximum temperature 92, minimum 48; precipitation, .06 inch.

NORTH PLATTE:

A rain, hail, wind and electric storm occurred on the night of the 6th. The rainfall on table and bench amounted to 2.15 and 2.70 inches, respectively. Run-off was heavy and bad washing occurred on roads and some plots.

North Platte, continued:

Temperatures have remained high. Corn is ripening rapidly. The first field of ensilage corn is being cut. Remaining fields are still somewhat green.

COLBY:

The past week has been decidedly windy and the evaporation has been high. This has caused a great deal of the corn to begin to dry up quite noticeably and many fields are drying almost completely. The early corn, for the most part, is far enough advanced towards maturity so that the drying will not affect the quality so very much. There is going to be a great deal of the corn that will be made chaffy if this weather continues. Corn on the station has dried very rapidly during the week. Harvesting of a few varieties was accomplished on Tuesday.

Harvesting was continued during the week as the drying weather continued so that all varieties, even though some under normal conditions would not have been mature by frost, were harvested by Friday noon. With the exception of one alternate-rowed listed plot, all corn on the D.L.A. project was harvested during the week. The commercial field stayed green longer than the plots, due principally to the fact that more protection from the wind is afforded in a larger field. The row binder was put in the commercial field this morning. Another week would have put this field in good condition, but now there will be some "loose" corn.

Sorghums are holding their own fairly well but are rolling and drying quite badly. A rain would revive them considerably but a rain would not hasten maturity much. Most of the grain sorghums will probably be caught with frost unless dried to maturity before then.

Approximately 4½ acres of wheat were seeded in corn the first of the week. It is too dry for germination. In this vicinity, farmers are reluctant to start seeding wheat. The soil is too dry for germination and many are afraid of the wheat false wire worm, which has destroyed wheat in dry falls in the past. There has been some wheat seeded in the county. Except where local showers have fallen, most seeding has been done in corn ground.

Maximum temperature for the week, 97 degrees, minimum temperature, 57. Precipitation for the week, none. Evaporation, 2.169 inches. Average hourly wind velocity, for the 8-ft. anemometer, 11.8 m.p.h.; for the 2-ft anemometer, 8.4 m.p.h.

GARDEN CITY:

High temperatures accompanied by high winds have prevailed during the past week. Temperatures above 95 were recorded on four days during the week.

Many of the row crops are burning badly and those not burning are maturing rapidly. Sorghums on fallow and on the better continuous methods still promise a crop if frost does not come too quick. Cowpeas were harvested yesterday. It is thought that the yield of hay will be somewhat above the average.

Good crowds were in attendance at the field day program held Wednesday and Thursday. The fair exhibits were very good considering the lateness of all crops. Those appearing on the program were, John Fields, Vice President of the Federal Land Bank of Wichita, W. A. Cochel, Managing Editor of the "Kansas City Weekly Star", E. G. Kelley and H. W. Cave, of the Agricultural College, and Dr. L. L. Jones, a local stockman. Director L. E. Call and A. L. Clapp were here for the program.

DALHART:

The past week has continued dry and rather warm with plenty of wind. One small rain netting .14 inch was recorded but was not sufficient to bring any relief. Rain is badly needed in sections of the Panhandle while some sections are still in good shape. Rains have been quite spotted in this immediate territory. Sections to the north and east have received a great deal more rain than has been recorded here.

Crops on the station are holding out well but firing is going on steadily. The variety grain and forage sorghums are getting well along in grain, some of them showing up in good shape for the conditions, while others are hurting. The rotations are still making a pretty good showing although the plots are not uniform. The low places, which are mostly on the east ends of the plots, are showing up in fine shape, while the west half of the same plots are burning some. The field corn is making an excellent showing in the C.C. methods in both fields. The two plots of corn on Rotations 88 and 89 are burning badly and will make a very poor yield, if any, of grain.

The cowpea varieties were harvested this week for hay. One variety (Early Buff) was harvested for seed. All cowpeas on rotations will be harvested the first of the week. The cowpea hay will be placed in the wire grain baskets to cure. This will prevent loss from blowing and will allow the hay to cure in better shape in case of wet weather. Considerable spraying was done this week for the red spider.

Dalhart, continued:

A few odds and ends of grape varieties were picked during the week. There is one variety about ready to pick and another which will mature within a week or two. This is all that remains of the varieties for this year. The total yield of grapes this year will be less than was picked last year.

There is going to be a large acreage of winter wheat planted here this fall. Some of the wheat is already in the ground and has emerged. The early planting is made so as to allow for winter pasture. The farmers that have sown wheat already had their ground prepared early and in good shape for moisture and germination was soon after planting. Good stands are reported in these cases. Some farmers are going to make big returns next spring or lose a lot, as some are planting as much as 1400 acres. There are any number planting 500 acres and above, and nearly all of them are having to purchase their seed. Some are treating the seed with copper carb. Several farmers have brought their wheat to the station and used the concrete mixer for mixing the smut prevantative.

Maximum temperature 91, minimum 58; precipitation, .14 inch.

TUCUMCARI:

Work the past week has included harvesting early cowpeas for hay and seed, making plant and stalk counts, pulling broomcorn, and bagging seed heads and removing bags from heads.

While crops still can make good yields, rain is badly needed, for all row crops are firing to some extent, while broadcast feed is firing extensively. Soil moisture samples show an average loss of moisture of over two per cent in the past three weeks, while the first foot in cropped M.C. milo plots lost over two per cent in the past week. The average of the six feet for the A and B plots is now about 7.0%, compared with an average of about 10.5%, August 11.

Many fields of grain and forage sorghums are hanging in the balance at this writing. With sufficient rain and a favorably warm fall, good yields will be produced, but early frost or lack of moisture can easily greatly reduce the yield. Precipitation since April 1 totals 10.95 inches; since January 1, 11.44 inches; and since October 1, 13.27 inches. With a little better distribution, less in early August and more early in this month, this would have been sufficient to produce a 40-bushel milo crop.

Wheat is being seeded under very favorable conditions, much of it on fallow, and although the range is drying rapidly, livestock is in good condition and there is an abundance of feed.

Maximum temperature 91, minimum 56; precipitation, .06 inch. Evaporation, 1.785 inches. Average hourly wind velocity, 5.5 miles.

BIG SPRING:

Cool weather has prevailed during the past week; this together with the rain of last week is a great relief from the dry, hot weather of August.

The second crop of Sudan grass is making a good growth, and the later dates of seeding of the grain sorghums are going to make good [illegible] yields; cotton is also going to be greatly benefited.

Many of the milo plots in the rotations were headed during the week, and some of the grain sorghum varieties were harvested.

Mr. F. A. Miller, Extension Agronomist, of Texas A. & M., was a station visitor September 9.

Maximum temperature 90, minimum 66; precipitation, .30 inch.

LAWTON:

Another week of hot, dry, sunshiny weather permitted cotton to open rapidly. Picking is well under way and the demand for pickers will soon exceed the supply. Gins have been turning out 50 bales per day in Lawton the past week but will soon operate at full capacity.

A dry surface on seed beds for wheat and barley would be greatly improved by rain.

Threshing of the grain sorghum project was completed during the week. A few good yields were obtained from the April 25 planting but most of the grain was very inferior in quality.

Maximum temperatures ranged from 90 to 97 degrees, while the minimum temperatures varied only from 63 to 67. Low humidity and very little wind movement obtained throughout the week.

WOODWARD:

The sorghum crops which made an extraordinarily heavy growth due to more rain than usual in June, July and August are beginning to suffer severely from drought. This comes as a surprise to many people, because the weather has been so foggy and misty for weeks that only the afternoons could be devoted to field work satisfactorily. As a matter of fact, however, there has not been a rain of over one-tenth inch for 25 days. The sorghums have been delayed in development, and are in bloom to soft dough. It is possible that there may not be much grain produced for all our rainfall.

Work of the week has consisted largely in cleaning up stray weeds and rank growth along fence rows, getting ready for our annual Field Day. The weather was clear and bright, and about 800 people attended. Aside from getting the station in presentable shape and showing people around, the station force has little to do with the program. This is left to the Extension Service, and they arrange the program, invite delegations from surrounding counties, and high schools within auto distance. Usually half a dozen or more of the College faculty attend. Cooperation of so many factors seems to have worked out very well.

SEP 17 1927
PLANT INDUSTRY

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

SEP 17 1927

REPORT FOR WEEK ENDING SEPTEMBER 17, 1927.

JUDITH BASIN:

The first frost this season came on the 15th with the temperature dropping to 26 degrees. This is four days earlier than average, but the same date as last year. With the late spring the frost free period is 108 days for this season, while the average is 125 days. Cool, cloudy weather during a large part of September has delayed ripening of spring wheat. Fields which were in the milk stage are undoubtedly damaged as the temperature was below freezing for two hours. It is yet too early to determine the exact damage on wheat from the low temperature. Corn, potatoes, beans, and tender garden crops were frozen and are showing noticeable effect of same.

Farmers have been busy threshing spring wheat during the week. Favorable weather during the remainder of the month will be necessary to get the majority of this job completed.

Spring wheat, barley, and flax were threshed on the rotations. Pure seed fields of wheat, barley, oats, and flax were also threshed, including a 30-acre field of Horn barley. Most of the threshing on the station is completed.

Visitors included Professors Vaughan and Vinke, of the Bozeman Station.

Maximum temperature 74, minimum 26; precipitation, .18 inch.

HUNTLEY:

Warmer weather has prevailed during the past week and corn and beans have made noticeable progress toward maturity. Early varieties of corn are now practically ripe, while later types are beginning to harden up. Beans are ready for pulling.

Field work during the week has consisted of completing tillage operations for fall grains, the seeding of winter wheat and rye in the rotations, threshing flax, and cutting corn on the rotation plats to be fall plowed. Plowing has been completed on the rotation field and is in progress in the miscellaneous crop field.

Frost has been reported from various places nearby but to date none has been noticed at the station, although the temperature has fallen close to the danger line.

Maximum temperature 81, minimum 34; precipitation, Trace.

HAVRE:

The past week was fairly favorable for field work although a little more windy than usual. Wind movement was not especially high but was quite continuous. Corn is maturing rather slowly. It now seems that most of the early varieties will mature in fair condition. A field of Dakota White flint is being fenced for hogging down experiments. Most of the silage corn has been cut. Alfalfa is ready for the third cutting and will be harvested soon. Late date seeding for oats and millet was harvested for hay with heavy forage yields.

Threshing is getting under way over the county in very good shape. Combines are still running, although a good deal of the late grain is being bound.

Prof. H. W. Vaughn, newly appointed head of the Animal Husbandry Department at the college at Bozeman, together with Mr. Louis Vinke, also with the college, were visitors on the 17th. Professor Vaughn was formerly with the University of Minnesota in charge of beef cattle.

Maximum temperature 78, minimum 35; precipitation, .09 inch.

SHERIDAN:

The week has been quite favorable for threshing. All grain in plots except flax, the last dates of seeding durum wheat, and the varieties of wheat and barley, have been threshed. Rye and the greater part of fields of barley for feed also have been threshed.

Threshing was stopped and seed corn picked the middle of the week. The earlier varieties of dent corn are now two-thirds ripe. There was a light frost the morning of the 14th, but there was no injury to vegetation at the station.

Messrs. Otto McCrary and Edwin Dunn, from the Laramie Station, were here during the week collection soil samples from the rotation field for chemical analysis.

Maximum temperature 92, minimum 33; precipitation, .02 inch.

DICKINSON:

The week passed without frost but due to the cool, wet weather late crops ripened rather slowly.

Dickinson, continued:

Corn has advanced so that about half of the ears on the rotation plots are ripe. Some seed of Northwestern Dent was picked September 13. Some of the late fields in the locality are just tasselling. As a whole, the corn in the district looks like a better than average crop.

Threshing was resumed on the 15th after a week's layoff, due to wet weather. Wheat, oats, barley and flax varieties were threshed with yields all above average. Flax on the rotations and the date of seeding experiment, increase plots of Ceres wheat, and sweet clover varieties are still to be threshed.

Winter wheat was seeded on the rotations September 12, and rye on the 13th. The winter wheat was seeded with a furrow drill. Plots of winter wheat were seeded on duckfoot fallow, plowed fallow and in stubble with both the ordinary and furrow drill for a comparison of the two implements. The yields of Ceres spring wheat seeded on May 5, 1927 averaged 25.4 bushels with the ordinary drill and 23.1 with the furrow drill.

Mr. White, of Washington, D. C., in Charge of Federal Seed Loan collections in this district, visited the station on the 16th.

Maximum temperature 84, minimum 41; precipitation, .60 inch.

MANDAN:

Agronomy

The field work made fair progress during the week. Threshing was delayed a half day because of a light rain.

The feed fields of oats and barley were threshed. The 15-acre field of oats on fallow made 45 bushels per acre.

The corn varieties for silage were cut and put in the silo. The average yield for the block was about 7.5 tons of silage per acre. Silo filling will be completed today with corn from one of the feed fields.

Corn made remarkable progress during the first half of September, due to the hot weather. It is now fully mature and will be harvested as fast as possible. The hot weather was a boon to corn throughout this whole area.

Maximum temperature 93, minimum 43; precipitation, .45 inch.

Mandan, continued:

Cooperative Grazing Experiment

Grass in the pastures still remains in good condition for grazing. The steers are still on the 30-acre pasture and are still holding their own. They will no doubt need to be removed in a few days.

Arboriculture

Height measurements and stand counts have been completed for all experimental tree plantings on the station. With the exception of poplar and willow, there has been practically no loss of trees this season.

A summary of the amount of land prepared for 1928 shelterbelt planting, as listed on inspection sheets, shows that 149,510 trees will be needed if plantings are spaced 6 by 12 feet. These shelterbelts are distributed as follows: Montana, 80; North Dakota, 81; South Dakota, 55; Wyoming, 24; total 240.

Horticulture

Mid-season varieties of plums are now being picked. Crops are generally light, although Red Wing and Tonka yielded fairly well. Selection 73 also looked good this year. The Ivan crabapple bore a heavy crop of good fruit.

Tomatoes are being picked, and the seed selections washed out. Harvesting of celery and other crops from the gardens has been in progress.

Dean Walster and Prof. J. E. Chapman, both from the North Dakota Agricultural College, visited the station during the week.

BELLE FOURCHE:

Moderately warm weather has prevailed during the greater part of the week, but the last couple days have been quite cool and windy. Several light showers have been received and the sky has frequently been overcast and threatening.

Corn has made rapid advancement toward maturity and is beginning to dent. Despite the hot, dry weather which has prevailed during Septemb. thus far, and the formation of large cracks in the ground, corn has not showed any signs of suffering from lack of moisture.

Bellefourche, continued:

The remainder of the spring wheat was harvested early in the week. All fallow and green manure plots were cultivated. Deep fall plowing, subsoiling, and listing on the small grain continuous cropping series have been completed, and plowing of the various rotation plots is in progress.

Maximum temperature 90, minimum 46; precipitation, .18 inch.

ARDMORE:

Silage cutting was the chief field operation carried on during the week. All of the silos were filled and the yield of corn was so much above the average that approximately 50 acres of corn still remain to be husked in the field.

The corn and sorghum in the silage test were cut on September 16. The green weight varied from 5.2 tons per acre for Gehu flint to a maximum of 11.85 tons per acre for Rainbow flint. Samples of all varieties were kept to determine the amount of dry matter. The sunflowers produced a yield of 12.8 tons per acre.

The corn and cane in fields 5 and 2, and corn in field 20 have been cut. Some of the corn plots in the rotations are ready to harvest. Some of the larger fields of cane are being cut today. The sorgo plots in the main rotations were harvested today. The green weight of the plots is approximately four tons per acre.

Seed corn of Northwestern Dent and of Paynes White Dent was picked during the week.

Maximum temperature 93, minimum 43; precipitation, .06 inch.

ARCHER:

Since the rain of .45 of an inch last Saturday afternoon, there has been but .04 of an inch of precipitation recorded. The weather has been rather warm during the week which has caused the fields of grain still standing to ripen rapidly. Harvesting and threshing is intermingled.

At the station, threshing started with winter wheat on the Dry-Land plots and continued until all plots which were in the way of other fall work were threshed. Plowing and seeding fall grain started this morning. Harvesting of increase fields of oats and barley is in progress. Corn has improved considerably but still needs a couple of weeks of warm weather. This is also true of the bean crop at the station. Other crops are in good condition.

Maximum temperature 83, minimum 45; precipitation, .49 inch.

AKRON:

Warm weather and strong south winds the past week have aided very materially the maturing of the corn. It is expected that corn will be ripe enough to cut with the binder early next week.

The millet from the Forage Variety experiment was hauled in early in the week and threshed. The hay yield ran about two tons per acre, while the grain yield ran about 30 bushels to the acre.

The third rate and date seeding with winter wheat was made Friday, the 16th.

The sheep and lambs on sweet clover pasture were removed during the week because of shortage of feed. Professor E. J. Maynard and Mr. Grant Eddy, from the College, were here Wednesday taking pictures of the different lots of ewes and lambs.

Much time was spent repairing the corn binder preparatory to the rather heavy harvest of corn, silage, and forage and grain sorghums. Other work consisted of fanning and grading grain and cleaning out the trench silo.

Maximum temperature 93, minimum 43; precipitation, 0.

NORTH PLATTE:

The week has been continuously dry and hot. Very high wind persisted for three days early in the week.

Corn has ripened rapidly. On the rotation plots it is entirely safe from frost and ready to cut. Station work has consisted in filling silos A Ronning machine which cuts the corn into ensilage in the field is being used. This has the advantage of eliminating the heavy work of handling bundles on and off the wagons, but is somewhat slower than the former method. A good day's run is 40 tons, while with corn binders and a good sized crew, 70 to 80 tons have been run through the cutter at the silo.

HAYS:

The week has been dry, warm and breezy. The maximum temperatures have ranged between 93 and 97 degrees and the minimum temperatures have ranged between 64 and 72.

Hays, continued:

All feed crops are developing and maturing rapidly--some of the later ones most too rapidly perhaps, for best yields, but these have been a little too slow, and will have to hurry to escape frost.

All corn and milo to be harvested on the project was harvested during the week. Pink kafir is about 30% mature except some late planting which is still very green.

The third cutting of alfalfa was made to-day on the bottom land plots.

The wind during the week caused considerable lodging of kafir which is tall and heavily seeded. Other tall row crops and thick seeded feed crops suffered from lodging more or less.

Precipitation for the week amounted to .33 inch.

DALHART:

One small rain was recorded during the past week which netted .27 inch. This rain was welcome but did not aid the suffering crops a great deal. The principal good done in this was for winter wheat which is being planted in large acreages. It put the soil in fair shape for plowing after cowpeas were removed from rotations so winter rye could be planted.

There has been considerable wind all week but nothing excessive. There have been days when rain threatened but managed to evade us. They have had plenty of rain a little east and west of us and within three miles to the north. The temperature has ranged in the 80's most of the week.

Field operations for the week were quite varied. The rotation cowpeas were harvested. The cowpeas were removed from the plots which were to be seeded to winter rye and these plots prepared for planting after the rain.

All winter rye and winter wheat plots were planted on the 15th, the seeding rate being 1 bushel to the acre. Several of the plots were harvested in the cereal forage block. The field corn for silage and early dwarf sumac were harvested in the forage block and four plots of broom corn in the cereal block. Some cowpeas were picked from the cowpea variety test.

Dalhart, continued:

The crops as a whole are holding out pretty good. In a few places the irregularity of the plots show up badly. With reasonably favorable conditions prevailing until harvest it is quite likely that a little better than an average crop will be harvested. Some varieties are showing up exceptionally well here this year, while others are about on an average.

Messrs. E. F. Chilcott and J. H. Martin were staion visitors during the week.

Maximum temperature 92, minimum 54.

TUCUMCARI:

A shower of .34 inch temporarily relieved crops on the 15th, but all row crops will continue firing very soon unless more precipitation is received.

Farmers on the plains portion of the county are seeding wheat steadily, but in a trip over that section early in the week very few promising row crops were seen. Rains during the summer have been very local and in some localities the sorghums are very disappointing.

Rotation cowpeas have been cut and cocked; beans pulled; cowpea seed picked; and wheat and rye plots, orchard, vineyard, and odd "blow" strips seeded the past week.

Department visitors the past week were Messrs. E. F Chilcott, J. H. Martin, and J. R. Horton.

Maximum temperature 91, minimum 58; precipitation, .39 inch. Evaperation, 1.571 inches. Average hourly wind velocity, 4.3 miles.

BIG SPRING:

Weather conditions during the past week have been very favorable for field work, and for the growth of late planted crops. Cotton is growing well, and many bolls are opening. It is probable that many of the plots will have to be picked next week.

Work this week has consisted mainly of heading milo plots, disking fallows, and in harvesting grain sorghum variety plots. The roadways were dragged and some painting was done.

Mr. John H. Martin, of the Cereal Office, was a station visitor September 15.

Maximum temperature 93, minimum 61; precipitation, .03 inch.

WOODWARD:

The past week has been hot, dry and rather windy on several day. One day was windy enough so that there was considerable soil blowing on the roads.

Work of the week has consited of cleaning up fence rows and edges of fields. A few late grapes and peached have been picked. Only a few vines of one variety of grapes remain unpicked.

The April 22, May 3 and 10 dates of planting of cotton date of planting and variety tests were picked during the latter part of the week. Maximum temperature 64; precipitation .01 inch. Evaporation, 1.985 inches. Average hourly wind velocity, 7.2 miles.

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WEEKLY STATION REPORTS

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U. S. DEPARTMENT OF AGRICULTURE

SEP 24 1927

REPORT FOR WEEK ENDING SEPTEMBER 24, 1927.

HAVRE:

The first killing frost of the season occurred on the night of the 19th when the temperature dropped to 25 degrees. The minima for the week, however, have all been below 40. The maximum ranged from 57 to 74.

Corn was frosted rather badly but it now seems that we will get quite a little mature grain.

Winter wheat was seeded during the week and the third cutting of alfalfa is in the cock. Threshing is progressing rapidly in the district and the beet harvest in the Chinook area will start on the 26th.

SHERIDAN:

A light frost the morning of the 19th followed by a heavy frost the next day killed corn and late forage crops. The earlier varieties of corn, including that in the rotation field, probably had ripened about three-fourths of the ears, but there will be some soft corn in all varieties. Neither sorgo or Sudan grass matured any seed.

Cutting of corn was begun on the 19th. All corn and forage crops have now been cut except a part of the varieties of corn and sorgo, and a part of the methods of seeding Sudan grass.

The weather has been quite dry and warm during the day and shattering has been bad. Rain began to fall this morning, making it impossible to finish the cutting today.

Threshing of small grain was completed during the week. Two small fields of brome were threshed and a good yield of seed was secured. Threshing of crested wheat grass, flax, and sweet clover yet remains to be done.

Maximum temperature 81, minimum 26; precipitation, 0.

MANDAN:

Agronomy

The past week has been favorable for all field work. Sorgo varieties were harvested on the afternoon of the 17th. The yield will be much above the average. Corn cutting started the first of the week and will be practically completed today. Most of it was cut before the first frost.

Mandan, continued:

A light frost came on the night of the 19th. It was not hard enough to kill tender vegetation. A killing frost came on the night of the 20th. The temperature went down to 28° F. All corn leaves and tender vegetation were killed. The frost free period for the season was 133 days, which is near the average for this area.

Corn is well matured and will no doubt produce one of the highest, if not the highest, average yield since the station started.

The season is late, and no fall plowing or seeding has been done to date.

Maximum temperature 71, minimum 28; precipitation, 0.

Cooperative Grazing Experiment

Pastures are in good condition for fall grazing. The 30-acre steers are still holding out in their pasture, but will no doubt need to be removed soon as they are out of feed.

Horticulture

Blight has caused more damage to apples and crabs than in any previous season. Varieties that are unusually susceptible, such as Transcendent and Hyslop, are being pulled, and blighted parts are being removed from other varieties.

Harvesting of midseason varieties of apples, crabs and plums, was continued throughout the week. These include Wealthy and Patten apples, Lyman, Ivan and several other crabs, and Red Wing, Tonka, Waneta, and Hanska plums. The season is about two weeks late for most varieties. Hybrid plums are not yielding heavy crops this year, but the quality of the fruit is very good.

ARDMORE:

The weather during the week has been quite cool with high winds on Monday and Tuesday. The first killing frost of the season came on the 19th with a temperature of 29.

All corn on the station was either mature or at the ripening stage; as a result the frost damage was not high. However, the sorgo crop on the station and practically all corn and forage crops on neighboring farms were badly damaged.

Ardmore, continued:

All corn on the rotation and variety plots and all sorgo on variety plots and small fields was harvested during the week. The baling of alfalfa hay was resumed during the latter part of the week.

The final soil moisture tests were made on the M.C. corn plots and in the beef cattle pastures.

All cultivated pastures in the Dairy cattle pastures experiments were mowed and stacked.

Maximum temperature 81, minimum 24; precipitation, 0.

ARCHER:

The weather has been cool with the frost occurring the night of September 19. This froze the corn and bean leaves but the ears of the corn and the pods of the beans were not injured. Such garden crops as cucumbers and tomatoes were similarly injured.

Rain occurred the afternoons of September 22 and 24. The latter storm is still in progress. The former consisted of 0.29 of an inch of precipitation.

The work at the station has consisted of harvesting corn, seeding winter wheat and rye, harvesting small cereals and the installation of the sewage system for the new house.

All corn on the Dry-Land plots has been harvested and in the general field a half day's cutting has been completed. The rain of September 22 delayed hay work.

On September 13 Senator Warren, accompanied by a delegation of Cheyenne business men, inspected the work at the station. Senator Warren again visited the station September 21.

Maximum temperature 79, minimum 28; precipitation, .29 inch.

AKRON:

The first frost of the season was experienced on the night of September 18. The minimum temperature on that night was 29. All tender vegetation, such as cucumber and pumpkin vines, was killed, while the leaves of corn and sorghums were frosted to such an extent that they will fall from the plant.

Akron, continued:

Corn needed another week, at least, but many believe that it will still satisfactorily mature barring a severe freeze within the next two weeks. Most corn was in the hard dent stage. Grain sorghums were in most cases in bloom or only slightly past the bloom stage. Such early maturing varieties as Freed's sorgo, Coes and Elton sorgo, were only in the soft to hard dough stage. These varieties may yet mature a grain crop barring a heavy freeze within the next two weeks.

Much of the headed winter wheat within the vicinity of the station has been threshed and yields have not stood up to expectations, nor to yields on corresponding soil preparation obtained here on the station. Smut was present in most of the fields adjoining or near the station and this may account for the reduction in yield of from 20 to 40%.

The new corn binder was set up during the middle of the week and enough silage corn removed for seeding the winter wheat variety experiment on the 22nd. Following the removal of this corn the rate and spacing corn and the rotation corn and sorgo plots were harvested.

Variety beans and beans in the rate and spacing corn project were harvested. Potatoes on the same project were harvested Saturday. Early Ohios on small grain stubble on high ground in the first replication yielded at the rate of 137 bushels of excellent quality tubers per acre. Irish cobblers on like soil preparation on low ground in the second replication made very poor progress during the summer, apparently from an excessively wet soil, yielding at the rate of only 32.8 bushels of good quality tubers per acre.

Professors Robertson and Walker and Mr. Deming were down from the College on Thursday to seed the small grain nursery. Mr. Walker is a new man on the College Faculty, having charge of soils work.

Maximum temperature 85, minimum 29; precipitation, 0.

NORTH PLATTE:

A violent change in temperatures occurred early in the week. Following abnormally hot weather for the first half month, temperatures swung suddenly to the other extreme. Mean maximum and minimum temperatures for the week just past were 75.1 and 34.7 degrees, as compared with 91.7 and 58.9 degrees for the week preceding. Killing frost occurred on three nights. The low mark was 26 degrees on the 21st. This is ten days in advance of the 50-year average.

North Platte, continued:

Killing frosts made it necessary to cut forage crops hurriedly. All corn on the D. L. A. project was cut and shocked during the week.

Winter wheat was seeded September 23-24. Plowed and disked stubble plots are in excellent shape. Corn ground is very dry at the surface, and wheat seeded on this will not be apt to germinate well until moisture is received.

GARDEN CITY:

September has been a month of unusual weather conditions. August temperatures have been recorded throughout most of the month. However, during the past week temperatures dropped to 41. A rain and hail amounting to two inches was recorded Thursday afternoon. Old residents of the county say that they had never seen so severe a hail storm this late in the season. The rain fell very rapidly and a large amount of the moisture was lost through run-off.

The dry land project presents a more or less wrecked appearance since the storm. As was the case in the destructive storm of 1923, the dry land project suffered the greatest damage of any field on the station. The hail was worse south of the station, but was hardly noticeable at the north edge of our farm. The irrigated project suffered some damage.

Hail stones about the size of hickory nuts and as hard as ice can get were driven by a very heavy wind. The wind and hail together put the taller sorghums down and tore at least fifty to sixty per cent of the leaves from the plants left standing. The hail came with such force that when a stone hit a standing head it passed entirely through it, scattering the half ripened grain on the ground. The ground around a shock of feterita was almost white with grain that had been threshed from the shock. Many stalks were cut off by the hail. The only good thing the writer can see about the storm is that it put the wheat seed bed in good condition for seeding.

Maximum temperature 96, minimum 41; precipitation, 2.0 inches.

JUDITH BASIN:

The days of the past week have been clear and warm, except for Saturday when the weather turned cloudy and colder with slight precipitation. The farmers took advantage of the ideal harvest weather and made a great deal of progress during the week.

The station threshing was completed by the middle of the week except for a few date of seeding plots on the cereal project. The threshing included crested wheat grass, varieties of peas, commercial mustard, and cereal plots.

Harvesting of the corn varieties was completed during the latter part of the week and good progress is being made on the larger corn fields

A continuation of last year's experiment with hogging off corn and testing the relative merits of alfalfa and sweet clover hay as supplementary feeds was started the latter part of the week.
Maximum temperature 74, minimum 25; precipitation, 0.

HUNTLEY:

Although the first frost of the season occurred early in the week, the weather for the most part has been warm and conditions have been very favorable for harvesting late crops.

Cutting of corn, sorghums and beans has constituted the principal field work of the past week although fall plowing has been carried on at intervals.

Beans and early varieties of corn matured before the frost but late varieties were killed before the ears had begun to harden.

Winter wheat and rye seeded on the plots September 12 has come up with fair stands. Volunteer grain has also made a good growth especially on plots where lodged grain shattered badly during harvest.
Maximum temperature 75, minimum 28; precipitation, 0.

BELLE FOURCHE:

The entire week has been quite cool and freezing temperatures have occurred on three successive nights. A heavy, killing frost was received on September 19 when the temperature fell down to 25 and remained below 30 over six hours.

Bellefourche, continued:

Corn, sorghum, potatoes, and all except the more hardy crops were killed by the frost. The tips of the leaves of sugar beets were frozen but apples were uninjured.

Corn and sorghum were harvested. With the exception of two plots, all fall plowing on the dry land rotations has been completed.

Mr. Stewart Lockwood, of the Bureau of Entomology, has been at the station most of the week conducting cricket control investigations.
Maximum temperature 77, minimum 25; precipitation, Trace.

COLBY:

Weather conditions had a decided change for the better this week. A total of 1.68 inches of moisture has fallen since our last report. Of this amount 1.23 inches fell on Thursday of this week. This puts ample moisture in the soil to almost insure the wheat going into the winter in good condition.

The D. L. A. plots were seeded on the 19th. There was sufficient moisture at that time to insure good germination. With the additional moisture which has fallen since, good stands should be secured. The winter wheat varieties were seeded on Tuesday. The winter hardiness nursery has also been seeded. Two days have been spent cutting sorghum for feed. There still remains several days of this work.

Milo is maturing but a few days more would put it out of danger. Feterita is practically out of danger now. Some localities north and west of here reported a light frost the first of the week.

Winter wheat seeding is well started now and is probably about one-half completed. Usually winter wheat seeding is further advanced at this time of the year. A dry seed bed has been the main hindrance to more rapid seeding of the acreage this fall.

There still remains about a day of seeding of wheat on the station. This will be done as soon as the weather and soil permits.

BIG SPRING:

Weather conditions during the past week have been very favorable for farm work. A rain consisting of .83 inch fell on September 18, and the temperature has been very moderate since then.

Big Spring, continued:

Cotton picking throughout the county is unusually late this year as only about 1500 bales have been ginned thus far. It is not probable that picking will get under full swing before October 1.

Some early dates of planting of cotton were picked on the station during the week. Other work consisted of harvesting grain sorghum plots and in heading an increase field of milo. The June 15 and July 1 dates of planting of cotton were sprayed with calcium arsinate to prevent leaf worm damage.

Maximum temperature 93, minimum 57; precipitation, .83 inch.

DALHART:

The continued dry spell was broken last Saturday night when a heavy storm came up suddenly. There was a heavy wind accompanied by rain. We were close to the western edge of this storm so did not get nearly as much as fell east and north of us. The amount recorded here in that rain was 1.56 inches, which wet the soil down to a good depth. There was a light rain last night (Friday), netting .29 inch. The week has been cold with some wind. The minimum temperature for the week was 45.

The crops have rallied somewhat after the rain of last week. The crops are not maturing very rapidly at this time of year. It will rush some of them to fully mature before frost unless the frost is delayed until past the average date. Most of the crops have heavy lodging which resulted from the wind and rain of last Saturday. Some of them are tangled badly while others may straighten up to some extent. None of the grain sorghums have matured sufficiently to harvest yet.

The winter wheat and rye have germinated to a good stand. These began to emerge on the 22nd, one week after planting.

Some special work was started with winter wheat methods this fall for soil moisture determinations. The first sampling was taken on the date of planting and samples will be taken once a month until harvest. The depth of the sampling is four feet. The results of the first sampling is rather interesting and is shown herewith.

Moisture on Wheat Plots at Planting Time

Depth	Fallow	Listing	Disking	Early Plowed	Late Plowed
1	11.6%	11.5%	11.0%	11.2%	6.7%
2	12.4	9.6	10.5	10.5	7.0
3	14.7	11.3	10.3	9.6	8.6
4	15.9	13.9	12.2	10.2	8.4

Dalhart, continued:

The field work for the week consisted of taking regular weekly soil samples on milo plots, harvesting of cowpeas from the variety plots, (picking peas), pulling, seeding and racking broom corn from varieties on date of planting. This concludes the broom corn pulling. Considerable of the Sudan was hauled in from the field and stacked. All of the plot Sudan was hauled, weighed and stored in the barn. Machinery was stored in the shed and a general clean-up given. Painting was started on the fa buildings this week.

TUCUMCARI:

A marked change in climatic conditions, while resulting in abundant moisture for growing crops, has lessened the prospect of maturity of many sorghums. This month had been the warmest September on record up to a week ago and at that time crops were firing, due to lack of moisture. Precipitation has been received on five of the past seven days, totaling 1.03 inches, enough to carry crops to maturity, but the mean temperature has been only 62, compared with a long-time September mean of 70, and a mean of 76 for the first half of the month.

Rotation kafir is in excellent condition and would promise a good grain yield if this were late August, but very few heads are past the milk stage and much of the crop will probably not produce grain. Milo plots are showing a few mature heads, while the majority are in the dough stage. A very heavy sucker crop is blooming or just through blooming and much of this may not mature.

Variety grain sorghum plots, planted June 18, are showing striking differences in nearly every respect. Some varieties will be mature within a few days, while others are barely in full head. The majority will probably only partially mature.

Work the past week has consisted of road work, pulling and seeding broomcorn, cutting of cowpeas, broomcorn and Sudan, making plant and stalk counts, and fence building.

Very little harvesting can be done for at least two to three weeks, and since many plots will require at least a month good growing weather, the station force is faced with the prospect of guessing when frost will arrive, and attempting to make a good showing at harvesting just before that time.

Maximum temperature 87, minimum 47; precipitation, 1.03 inches. Evaporation, 1.075 inches. Average hourly wind velocity, 3.4 miles.

LAWTON:

Almost daily threats of rain for the last two weeks finally resulted in showers amounting to .63 inch. The surface soil was very dry and the limited amount of precipitation thus far received has been of much benefit to the wheat grower.

Where the rains have fallen on land that is well prepared it will not be difficult to secure good germination of wheat and barley if seeding is done in the immediate future. All of the wheat and barley rotation plots are prepared for seeding and such work will be done as rapidly as possible. In a few localities that have been favored by rains such seeding has been done but the work in general will be done from now on.

Winter barley, seeded September 15, in the date of seeding work, came up to a good stand by the 21st. Oats seeded on the same date has been much slower in germinating. The second date of seeding in this work was made on the 24th. Five varieties of winter barley were also seeded on that date.

Cotton opened very rapidly during the hot weather which prevailed during the first eighteen days of September. All of the cotton on the station has been picked once and the April 15 and May 1 plantings have been picked twice. Oklahoma 44, planted April 20, has already produced a yield of 1250 lbs. of seed cotton per acre. Wost Tox. has so far produced about 100 lbs. of seed cotton per acre. The latter variety, however, has a very short staple.

Since the termination of the hot weather on September 19, the temperatures have been very moderate and the nights have been very cool. Since that time cotton has opened slowly. The lowest temperature recorded so far was 49 on the 19th.

WOODWARD:

The weather this week has been ideal fall weather, without much wind, cool and pleasant. Some of the sorghum crops, such as the milos and feteritas are ripending rapidly, while the kafirs and larger sweet sorghums are simply drying up due to drought. We have had practically no rain for forty days. All sorghums are very late this year. They were planted somewhat later than usual. Rains in June, July and August made them slow to mature. They may be hit by frost before maturity, or dry up, or lodge in the rain that is long overdue, or by chance ripen up. There are many possibilities, and only one of them favorable.

Most of the land has been prepared for winter wheat for several weeks, but due to continued dry weather, little has been planted about the country, and none on the station. Work of the week has consisted of putting up hay, picking cotton, pulling broomcorn and putting on exhibit at local fair.

Maximum temperature 94, minimum 40; precipitation, .13 inch. Evaporation, 1.498 inches. Average hourly wind velocity, 5.1 miles.